



State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095
(603) 271-3406 FAX (603) 271-7894



Mr. Stoney Worcester
Public Service Company of NH
1000 Elm Street
P.O. Box 330
Manchester, NH 03105

May 6, 2002
Letter of Deficiency
DAM #116.04

RE: Jackman Reservoir Dam, Hillsborough

Dear Mr. Worcester:

The Department of Environmental Services, Dam Bureau (DES) consistently strives to enhance the safety of dams in New Hampshire through its dam safety program. One of the many instruments that plays a part in reaching this goal is our inspection program. DES is forwarding this correspondence to you to advise you that in accordance with RSA 482:12 and Env-Wr 502.02, an inspection of the subject dam was conducted on September 6, 2001. During this visual inspection and/or file review, the following deficiencies were observed:

1. There was an abundance of small tree growth throughout the dam along the entire earth embankment hindering inspection of most of the earthen portion of the dam. It was indicated that brush removal would be conducted later this fall as it is cut on a 2-year cycle. While in the area on a following date most of the brush was removed except for at the far left side of the dam outside the existing fence along Route 9. An additional inspection should be conducted to determine the integrity of the embankments;
2. There was erosion at the left and right side of the concrete spillway at the connections between the crest of the dam and the upstream embankment;
3. Off road vehicle traffic was creating an erosion scarp along the right groin of the dam near the crest of the right embankment;
4. There were areas of exposed wire mesh reinforcing mat on the spillway face that looked similar to the conditions of the past inspection. The spillway was refaced in 1998. Some areas most likely did not hold the gunite coating and are in need of repair. The scaling gunite is not considered to be jeopardizing the dam's integrity at this time. However, Mr. Worcester indicated that the gunite surface of the dam is to be repaired within the next year. Additionally, there were cracks and spalling concrete in several locations other than the spillway section; and
5. There was no operation and maintenance plan on file with the DES.

DES believes that the above deficiencies can be corrected by performing the following items by the indicated schedule:

July 1, 2002:

1. Prepare and submit to DES a written operational procedure plan. The plan should describe the control of impoundment levels, monitoring and maintenance procedures, and identify emergency contact personnel. Please refer to the enclosed guidelines;

Letter of Deficiency
Dam #116.04
May 6, 2002
pg. 2

November 1, 2002:

1. Repair the erosion at the left and right side of the concrete spillway at the connections between the crest of the dam and the upstream embankment. If a compacted fill is utilized the establishment of an erosion resistant grass cover will be necessary;
2. Eliminate the off road vehicle traffic, if possible, and repair the erosion scarp along the right groin of the dam near the crest of the right embankment. If a compacted fill is utilized the establishment of an erosion resistant grass cover will be necessary;
3. Submit a schedule to repair the gunite surface of the spillway (as you have indicated this would be conducted within the following year) and additionally all other spalling and cracked locations throughout the spillway as may be necessary; and
4. Remove the small trees still remaining along the left embankment outside the fence bordering along Route 9. It is understood that most of the trees have been removed as part of your bi-annual brush removal program. Upon completion DES will schedule an inspection to determine the integrity of the earthen portions of the embankment that could not be inspected due to the heavy brush growth.

DES is requesting that you complete and submit the attached "Intent to Complete Repairs" form, within 30 days of receipt of this letter, that will provide for correction of the identified deficiencies by the date(s) indicated above. If you believe changes to the items of work or dates are necessary, please make the changes directly on the form and provide a brief explanation. We have enclosed a self addressed stamped envelope for you to return this form.

Our intent in sending you this correspondence is to make you aware of items that DES believes warrant your attention to insure the continued safe operation of your dam. It is our hope that, through the submittal of the attached form and a commitment to keeping a well-maintained dam, you will voluntarily comply with the requested items of work. If we do not receive the intent form or a similarly adequate written reply, we will assume that you are in agreement with our findings and recommendations and DES will carry out follow-up inspections accordingly.

If you have any questions or comments regarding this Letter of Deficiency or would like to be present at future inspections, please contact me at 271-3406, or write to the Water Division at the address listed on the top of the previous page.

Sincerely,


COPY

Dale F. Guinn, P.E.
Dam Safety Engineer

Attachments Guideline for an O&M plan, DB8, DB13

cc: Gretchen Rule✓

Town of Hillsborough

Certified # 7099 3400 0002 9773 7153

DFG/was/h:/safety/wendy/lod/116-04lod.doc